

#### State of Maryland

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# Recoveries of American Black Ducks and Wood Ducks Banded Preseason in Maryland

To gain a better understanding of how waterfowl are affected by hunting, many programs, such as waterfowl banding, have been established to monitor waterfowl harvest. Banding of migratory birds is coordinated by the Bird Banding Laboratory (Laurel, MD), a section of the U.S. Geological Survey (USGS). Banding information can be used to determine population status, identifying migration corridors, estimate survival, annual harvest rates, and the effects of hunting regulations. Additionally, this information can tell managers how far a bird may travel during migration and which path (flyway) it chooses to take. Band recovery data is a vital tool used in setting the hunting seasons. Bands have a toll free telephone number printed on the band which aids hunters in reporting the bands they recover. The band recovery data is held in the Bird Banding Laboratory's database.

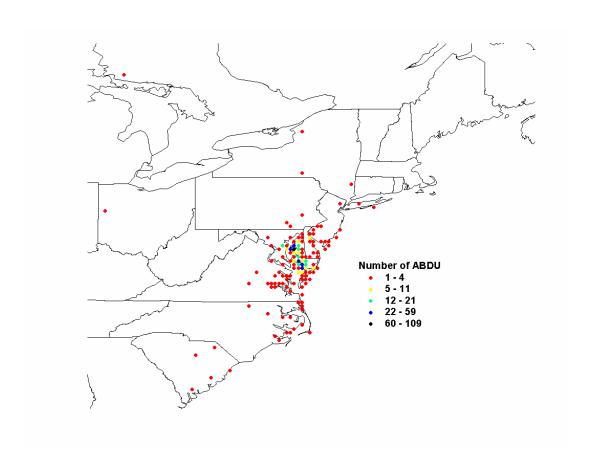
Each year, prior to the hunting season, wildlife agencies focus efforts on banding large numbers of waterfowl. This period of *pre-season* banding occurs during July through September. Ducks are captured mainly in portable, wire traps baited with grain. Information recorded for each bird includes species, sex, age, and capture location. The ducks are banded with U.S. Fish and Wildlife Service (USFWS) leg bands and released within a few hours of capture.

Field data is then entered into a software program developed by USGS for the recording of banding data. After collecting and collating the data, the data is then sent to the Bird Bandling Laboratory. Hunters reporting banded birds are provided a certificate of appreciation that includes where and when the duck was banded, the bird's age at the time of banding, and sex.

The two types of band recoveries are *direct recoveries* and *indirect recoveries*. Direct recoveries are bands recovered during the first hunting season following banding. Indirect recoveries are bands recovered more than one year past the original banding date.

Of particular interest to the Maryland Department of Natural Resources – Wildlife & Heritage Service, are two commonly harvested species that nest in the state, the American Black Duck and Wood Duck. The maps and tables that follow show recoveries of hunter-harvested Black Ducks (1934-1999) and Wood Ducks (1951-1999) that were banded in Maryland during July – September.

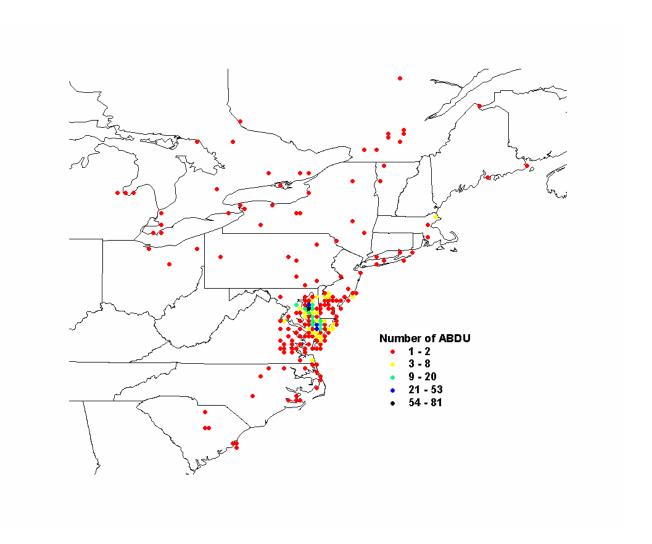
### Direct Recoveries of American Black Ducks Preseason Banded in Maryland 1934-1999



# Direct Recoveries by Month of American Black Duck Preseason Banded in Maryland 1934-1999

State/Province	October	November	December	January	Grand Total
State/F10VIIICE	Octobel	November	December	January	Granu Total
Delaware		13	7	2	22
Georgia			1		1
Maryland	11	231	228	99	569
New Jersey	2	9	6	1	18
New York	2	3			5
North Carolina	2	1	7	9	19
Ohio	1				1
Ontario	1				1
Pennsylvania	2		1	1	4
South Carolina			3	2	5
Virginia	3	8	19	15	45
Grand Total	24	265	272	129	690

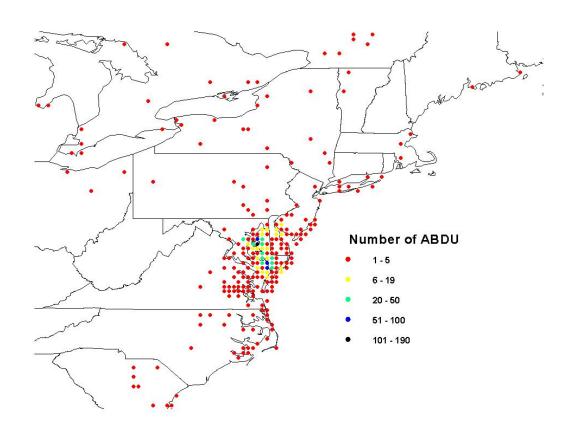
### Indirect Recoveries of American Black Ducks Preseason Banded in Maryland 1934-1999



# Indirect Recoveries by Month of American Black Duck Preseason Banded in Maryland 1934-1999

State/Province	October	November	December	January	Grand Total	
Alabama			1		1	
Arkansas		1		1	2	
Connecticut	1			1	2	
Delaware	1	6	7	5	19	
Illinois		1	1		2	
Kentucky		1			1	
Maine	2				2	
Maryland	19	116	200	128	463	
Massachusetts	1	2	2		5	
Michigan	3				3	
Minnesota	1				1	
Mississippi			1		1	
New Jersey	1	16	7	3	27	
New York	7	3	1	1	12	
North Carolina			5	9	14	
Nova Scotia			1		1	
Ohio	1	2			3	
Ontario	9	4			13	
Pennsylvania	4	4			8	
Quebec	8	4			12	
Rhode Island				1	1	
South Carolina		1	3	2	6	
Tennessee				1	1	
Unknown				1	1	
Vermont	2				2	
Virginia	4	10	19	30	63	
Wisconsin	3	1	1		5	
Grand Total	67	172	249	183	671	

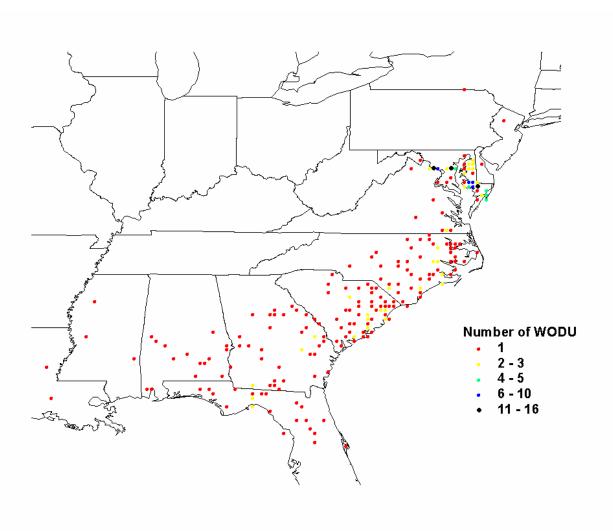
### All Recoveries of American Black Ducks Preseason Banded in Maryland 1934-1999



# All Recoveries by Month of American Black Ducks Preseason Banded in Maryland 1934-1999

Unknown         1         2         2         2         1 </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>						
Alabama         1         1         1           Arkansas         1         1         2           Connecticut         1         1         2           Delaware         1         19         14         7         41           Georgia         1         1         1         1         1           Illinois         1         1         2         2         Kentucky         1	State/Province	October	November	December	January	Grand Total
Arkansas         1         1         2           Connecticut         1         1         2           Delaware         1         19         14         7         41           Georgia         1         1         1         1         1           Illinois         1         1         2         2         Kentucky         1	Unknown				1	1
Connecticut         1         2           Delaware         1         19         14         7         41           Georgia         1         1         1         1           Illinois         1         1         2         2           Kentucky         1         1         1         2           Kentucky         1         1         1         1           Maine         2         2         2         1         1           Maine         2         2         5         1	Alabama			1		1
Delaware         1         19         14         7         41           Georgia         1         3         2         2         3         2         3         4         4         5         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4         4	Arkansas		1		1	2
Georgia         1         1           Illinois         1         1         2           Kentucky         1         1         2           Maine         2         2         2           Maryland         30         347         428         227         1032           Massachusetts         1         2         2         5           Michigan         3         3         3         3           Minnesota         1         1         1         1           Mississisppi         1         1         1         1           New Jersey         3         25         13         4         45           New York         9         6         1         1         17           North Carolina         2         1         12         18         33           Nova Scotia         1         1         1         1         1           Ohio         2         2         4         4         1         1         1           Ohio         2         2         4         1         1         1         1           Pennsylvania         6         4	Connecticut	1			1	2
Illinois	Delaware	1	19	14	7	41
Kentucky         1         1           Maine         2         2           Maryland         30         347         428         227         1032           Massachusetts         1         2         2         5           Michigan         3         3         3         3           Minnesota         1         1         1         1           Mississippi         1         1         1         1           New Jersey         3         25         13         4         45           New York         9         6         1         1         17           North Carolina         2         1         12         18         33           Nova Scotia         1         1         1         1           Ohio         2         2         4         4           Ontario         10         4         1         1         12           Rensylvania         6         4         1         1         1           Quebec         8         4         1         1         1           Rhode Island         1         6         4         11         1     <	Georgia			1		1
Maine         2         2           Maryland         30         347         428         227         1032           Massachusetts         1         2         2         5           Michigan         3         3         3         3           Minnesota         1         1         1         1           Mississippi         1         1         1         1           New Jersey         3         25         13         4         45           New York         9         6         1         1         17           North Carolina         2         1         12         18         33           Nova Scotia         1         1         1         1         1           Ohio         2         2         4         4         1         1         1         1           Ohio         2         2         4         4         1	Illinois		1	1		2
Maryland         30         347         428         227         1032           Massachusetts         1         2         2         5           Michigan         3         3         3           Minnesota         1         1         1           Mississippi         1         1         1           New Jersey         3         25         13         4         45           New York         9         6         1         1         17           North Carolina         2         1         12         18         33           Nova Scotia         1         1         1         1           Ohio         2         2         4         4           Ontario         10         4         14         1         12           Quebec         8         4         1         1         1           Rhode Island         1         1         1         1           South Carolina         1         6         4         11         1           Tennessee         1         1         1         1           Vermont         2         2         2         2 <td>Kentucky</td> <td></td> <td>1</td> <td></td> <td></td> <td></td>	Kentucky		1			
Massachusetts         1         2         2         5           Michigan         3         3         3           Minnesota         1         1         1           Mississippi         1         1         1           New Jersey         3         25         13         4         45           New York         9         6         1         1         17           North Carolina         2         1         12         18         33           Nova Scotia         1         1         1         1           Ohio         2         2         4         4           Ontario         10         4         1         1         12           Quebec         8         4         1         1         1         1           Rhode Island         1         1         6         4         11         1         1           South Carolina         1         6         4         11         1         1         1           Tennessee         1         1         1         1         1         1         1           Vermont         2         2         2 </td <td>Maine</td> <td>2</td> <td></td> <td></td> <td></td> <td>2</td>	Maine	2				2
Michigan       3         Minnesota       1         Mississippi       1         New Jersey       3         1       1         New York       9         6       1         1       1         North Carolina       2         1       12         18       33         Nova Scotia       1         1       1         1       1         1       1         1       1         1       1         1       1         1       1         1       1         2       2         4       1         1       1         1       1         1       1         1       1         1       1         2       2         4       1         1       1         1       1         2       1         2       1         3       1         4       1         4       1         5	Maryland	30	347	428	227	1032
Minnesota         1	Massachusetts	1	2	2		5
Minnesota       1       1         Mississippi       1       1         New Jersey       3       25       13       4       45         New York       9       6       1       1       17         North Carolina       2       1       12       18       33         Nova Scotia       1       1       1       1         Ohio       2       2       4       4         Ontario       10       4       1       1       12         Quebec       8       4       1       1       1       1         Quebec       8       4       1	Michigan	3				3
New Jersey         3         25         13         4         45           New York         9         6         1         1         17           North Carolina         2         1         12         18         33           Nova Scotia         1         1         1         1           Ohio         2         2         4         4           Ontario         10         4         14         1           Pennsylvania         6         4         1         1         12           Quebec         8         4         12         1         1           Rhode Island         1         6         4         11         1           South Carolina         1         6         4         11         1           Tennessee         1         1         1         1         1           Vermont         2         2         2         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	Minnesota	1				1
New York         9         6         1         1         17           North Carolina         2         1         12         18         33           Nova Scotia         1         1         1         1           Ohio         2         2         4         4           Ontario         10         4         14         1         12           Pennsylvania         6         4         1         1         12           Quebec         8         4         12         1         1           Rhode Island         1         6         4         11         1           South Carolina         1         6         4         11         1           Tennessee         1         1         1         1         1           Vermont         2         2         2         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	Mississippi			1		1
North Carolina         2         1         12         18         33           Nova Scotia         1         1         1           Ohio         2         2         4           Ontario         10         4         14           Pennsylvania         6         4         1         1         12           Quebec         8         4         12         12           Rhode Island         1         1         6         4         11           South Carolina         1         6         4         11           Tennessee         1         1         1         1           Vermont         2         2         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	New Jersey	3	25	13	4	45
Nova Scotia         1         1           Ohio         2         2         4           Ontario         10         4         14           Pennsylvania         6         4         1         1         12           Quebec         8         4         12         12           Rhode Island         1         1         1         1           South Carolina         1         6         4         11           Tennessee         1         1         1           Vermont         2         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	New York		6	1	1	17
Ohio         2         2         4           Ontario         10         4         14           Pennsylvania         6         4         1         1         12           Quebec         8         4         12         12           Rhode Island         1         1         1         1           South Carolina         1         6         4         11           Tennessee         1         1         1         1           Vermont         2         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	North Carolina	2	1	12	18	33
Ontario         10         4         14           Pennsylvania         6         4         1         1         12           Quebec         8         4         12         12           Rhode Island         1         1         1         1           South Carolina         1         6         4         11           Tennessee         1         1         1           Vermont         2         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	Nova Scotia			1		1
Pennsylvania         6         4         1         1         12           Quebec         8         4         12           Rhode Island         1         1         1           South Carolina         1         6         4         11           Tennessee         1         1         1           Vermont         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	Ohio	2	2			4
Quebec       8       4       12         Rhode Island       1       1       1         South Carolina       1       6       4       11         Tennessee       1       1       1         Vermont       2       2       2         Virginia       7       18       38       45       108         Wisconsin       3       1       1       5	Ontario	10	4			14
Quebec       8       4       12         Rhode Island       1       1       1         South Carolina       1       6       4       11         Tennessee       1       1       1         Vermont       2       2       2         Virginia       7       18       38       45       108         Wisconsin       3       1       1       5	Pennsylvania	6	4	1	1	12
South Carolina         1         6         4         11           Tennessee         1         1         1           Vermont         2         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	Quebec	8	4			12
Tennessee         1         1           Vermont         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	Rhode Island				1	1
Vermont         2         2           Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	South Carolina		1	6	4	11
Virginia         7         18         38         45         108           Wisconsin         3         1         1         5	Tennessee				1	
Wisconsin 3 1 1 5	Vermont	2				2
Wisconsin         3         1         1         5	Virginia		18	38	45	108
Grand Total 91 437 521 312 1361	Wisconsin	3	1	1		5
	Grand Total	91	437	521	312	1361

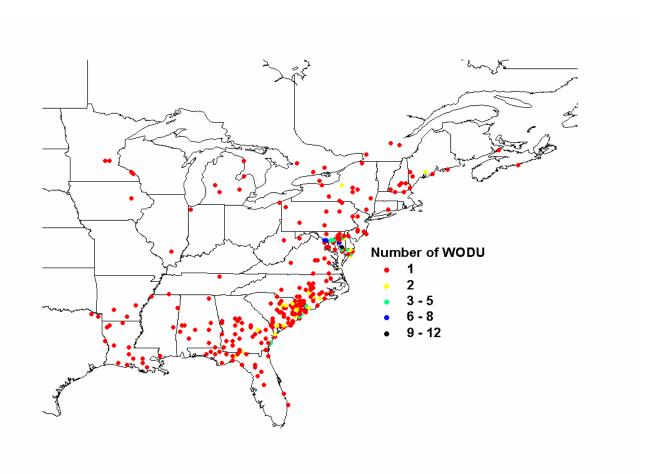
### Direct Recoveries of Wood Ducks Preseason Banded in Maryland 1951-1999



## Direct Recoveries by Month of Wood Ducks Preseason Banded in Maryland 1951-1999

State/Province	October	November	December	January	Grand Total
Alabama	1	8	24	7	40
Georgia		8	14	15	37
Louisiana		1		1	2
Maryland	90	27	5	5	127
Mississippi			3		3
New Jersey	1				1
New York	1				1
North Carolina		14	27	21	62
South Carolina		14	25	19	58
Unknown				1	1
Virginia	5	2	6		13
West Virginia	1				1
Grand Total	99	74	104	69	346

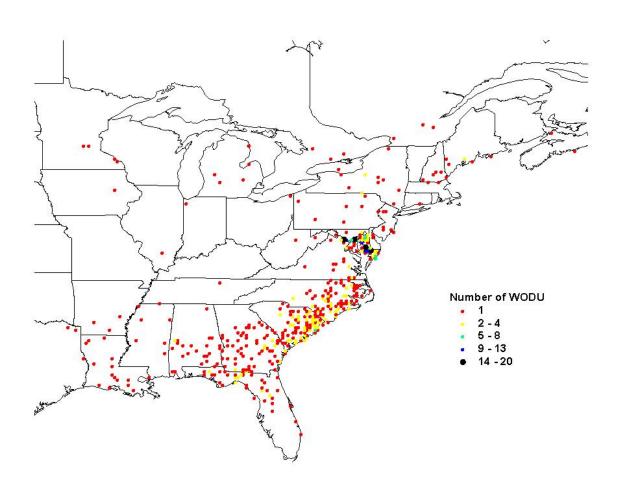
### Indirect Recoveries of Wood Ducks Preseason Banded in Maryland 1951-1999



## Indirect Recoveries by Month of Wood Ducks Preseason Banded in Maryland 1951-1999

		Г	T	ı		
State/Province	October	November	December	January	Grand Total	
Alabama		1	8	2	11	
Arkansas			3	1	4	
Connecticut	1				1	
Delaware	2				2	
Florida		3	10	7	20	
Georgia		7	17	13	37	
Illinois			1		1	
Indiana		1			1	
Iowa	1				1	
Louisiana		9	4	1	14	
Maine	6				6	
Maryland	59	10		5	74	
Michigan	4	1			5	
Minnesota	3				3	
Mississippi			2		2	
New Brunswick	1				1	
New Hampshire	6	1			7	
New Jersey	5				5	
New York	11	1			12	
North Carolina	3	8	10	18	39	
Nova Scotia	1				1	
Ohio	1				1	
Oklahoma			1		1	
Ontario	3				3	
Pennsylvania	6	1			7	
Quebec	3				3	
South Carolina		14	28	22	64	
Tennessee			2		2	
Texas		1			1	
Virginia	6	2	1	1	10	
West Virginia	2				2	
Wisconsin	1				1	
Grand Total	125	60	87	70	342	
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### All Recoveries of Wood Ducks Preseason Banded in Maryland 1951-1999



### All Recoveries of Wood Ducks Preseason Banded in Maryland 1951-1999

State/Province	October	November	December	January	Totals
Unknown				1	1
Alabama		2	18	5	25
Arkansas			3	1	4
Connecticut	1				1
Delaware	3				3
Florida		10	24	11	45
Georgia		15	31	28	74
Illinois			1		1
Indiana		1			1
Iowa	1				1
Louisiana		10	4	2	16
Maine	6				6
Maryland	149	37	5	10	201
Michigan	4	1			5
Minnesota	3				3 5
Mississippi			5		5
New Brunswick	1				1
New Hampshire	6	1			7
New Jersey	6				6
New York	12	1			13
North Carolina	3	22	37	39	101
Nova Scotia	1				1
Ohio	1				1
Oklahoma			1		1
Ontario	3				3
Pennsylvania	6	1			7
Quebec	3				3
South Carolina		28	53	41	122
Tennessee			2		2
Texas		1			1
Virginia	11	4	7	1	23
West Virginia	3				3
Wisconsin	1				1
Grand Total	224	134	191	139	688
	•	•	•	•	